UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,266	12/18/2003	Christian Auclair	1417-03	2270

35811 7590 09/21/2005

IP GROUP OF DLA PIPER RUDNICK GRAY CARY US LLP
1650 MARKET ST
SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER	
FETTEROLF, BRANDON J	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/740,266	AUCLAIR ET AL.	
	Examiner	Art Unit	
	Brandon J. Fetterolf, PhD	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-47 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

SD

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 2 in part and 5, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is a zyxin protein, classified in class 530, subclass 350.

II. Claims 1, 2 in part and 6, as specifially drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is a nucleic acid molecule comprising cNDA of a zyxin gene, classified in class 536, subclass 23.1.

III. Claims 1 and 2 in part, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is an antisense nucleic acid, classified in class 536, subclass 24.5.

IV. Claims 1, 2 in par, 7, 17, 18 and 19, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is a cell overexpressing the zyxin gene, classified in class 435, subclass 372.

V. Claims 1, 9, 10, 11, 12, 13, 14, 15, 16 and 20-23, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor

pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is associated with a vector or intracellular transport, classified in class 435, subclass 320.1.

VI. Claims 1, 2 in part and 8, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is an inhibitor of cofilin, classified in class 530, subclass 350.

VII. Claims 1 and 3-4, as specifically drawn to a pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology comprising an active agent which stabilizes an actin network of a cellular cytoskeleton, wherein the active agent is a cyclic peptide, classified in class 530, subclass 317.

VIII. Claims 24, 26, 28 and 30, as specifically drawn to a cell genetically engineered to overexpress a zyxin gene, classified in class 435, subclass 372.

IX. Claims 25, 27 and 29-30, as specifically drawn to a cell genetically engineered to underexpress a zyxin gene, classified in class 435, subclass 372.

X. Claim 31, as specifically drawn to a nonhuman transgenic mammal, classified in class 800, subclass 8.

XI. Claims 32-33, as specifically drawn to a method of identifying compounds which stabilize an actin network of a cytoskeleton of a cell comprising detecting the phenotypic reversion of expression of zyxin induced by the compounds comprising contacting a compound to be tested with the cell and quantifying expression of zyxin in the cell, wherein quantifying the expression of zyxin is performed by comparing expression of zyxin messenger RNA in the cell, classified in class 435, subclass 287.2.

XII. Claims 32 and 34, as specifically drawn to a method of identifying compounds which stabilize an actin network of a cytoskeleton of a cell comprising detecting the phenotypic reversion of expression of zyxin induced by the compounds comprising contacting a compound to be tested with the cell and quantifying expression of zyxin in the cell, wherein quantifying the expression of zyxin is performed by comparing expression of zyxin protein in the cell, classified in class 435, subclass 287.2.

XIII. Claims 35, 36, 38, 39 and 40, as specifically drawn to a method of diagnosing a tumoral pathology comprising obtaining cells from a patient and quantifying expression of zyxin MRNA in the cells, classified in class 435, subclass 6.

XIV. Claims 35, 37, 38, 39 and 41, as specifically drawn to a method of diagnosing a tumoral pathology comprising obtaining cells from a patient and quantifying expression of zyxin protien in the cells, classified in class 435, subclass 7.23.

XV. Claim 42, as specifically drawn to a method of screening a compound active in the treatment of cancer comprising incubating tumor cells with an active ingredient which stabilizes an actin network of cellular cytoskeleton, and measuring stabilization of polymerization of the actin network of the cells, classified in class 435, subclass 287.2.

XVI. Claim 43, as specifically drawn to a method of treating or preventing hepatocarcinomas comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof, classified in class 514, subclass 2, 44.

XVII. Claim 44, as specifically drawn to a method of treating or preventing mesenchymal tumors comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof, classified in class 514, subclass 2, 44.

XVIII. Claim 45, as specifically drawn to a method of treating or preventing neuroectodermal cancer comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof, classified in class 514, subclass 2, 44.

XIX. Claim 46, as specifically drawn to a method of treating or preventing Ewing's sarcoma comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof, classified in class 514, subclass 2, 44.

XX. Claim 47, as specifically drawn to a method of treating or preventing malignant hemopathies associated with chromosomal anamolies of region 7q34/q35 of a zyxin gene comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof, classified in class 514, subclass 2, 44.

The inventions are distinct, each from the other because of the following reasons:

The inventions of Groups I-X are represent separate and distinct products which are made by materially different methods, and are used in materially different methods which have different modes of operation, different functions and different effects. In the instant case, pharmaceutical composition for the treatment prevention or diagnosis of a tumor pathology, wherein the active agent is a zyxin protein (Group I), a pharmaceutical composition for the treatment prevention or diagnosis of a tumor pathology, wherein the active agent is a nucleic acid molecule comprising cNDA of a zyxin gene (Group II), pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology, wherein the active agent is an antisense nucleic acid (Group III), the pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology, wherein the active agent is a cell overexpressing the zyxin gene (Group IV), the pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology, wherein the active agent is associated with a vector or intracellular transport (Group V), the pharmaceutical

composition for the treatment, prevention or diagnosis of a tumor pathology, wherein the active agent is an inhibitor of cofilin (Group VI), the pharmaceutical composition for the treatment, prevention or diagnosis of a tumor pathology, wherein the active agent is a cyclic peptide (Group VII), a cell genetically engineered to overexpress a zyxin gene (Group VIII), the cell genetically engineered to underexpress a zyxin gene (Group IX), and the nonhuman transgenic animal (Group X) are all structurally and/or chemically and/or functionally distinct compounds such that one invention could not be interchanged with the other. For example, the invention of Group I is related to the invention of Group II by virtue of the fact that the DNA codes for the protein. The DNA molecule has utility for the recombinant production of the protein in a host cell. Although the DNA and the protein are related, since the DNA encodes the specifically claimed protein, they are distinct inventions because the protein product can be made by other and materially distinct processes, such as purification from the natural source. Further, DNA can be used for processes other than the production of protein, such as nucleic acid hybridization assays. For these reasons the inventions of Groups I-X are patentably distinct.

The inventions of Groups I-X have a separate status in the art as shown by their different classifications. As such, it would be burdensome to search the inventions of Groups I-X. As such, each invention would require different searches and the consideration of different patentability issues.

The inventions of Groups XI-XX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the specification does not disclose that their methods would be used together. The method of identifying compounds which stabilize an actin network of a cytoskeleton of a cell, wherein quantifying the expression of zyxin is performed by comparing expression of zyxin messenger RNA in the cell (Group XI), method of identifying compounds which stabilize an actin network of a cytoskeleton of a cell, wherein quantifying the expression of zyxin is performed by comparing expression of zyxin protein in the cell (Groups XII), the method of diagnosing a tumoral pathology comprising obtaining cells from a patient and quantifying expression of zyxin MRNA in the cells (Group XIII), the method of diagnosing a tumoral pathology comprising obtaining cells from a patient and quantifying expression of zyxin protien in the cells (Group XIV), the method of

screening a compound active in the treatment of cancer comprising incubating tumor cells with an active ingredient which stabilizes an actin network of cellular cytoskeleton, and measuring stabilization of polymerization of the actin network of the cells (Group XV), the method of treating or preventing hepatocarcinomas comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof (Group XVI), the method of treating or preventing mesenchymal tumors comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof (Group XVII), the method of treating or preventing neuroectodermal cancer comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof (Group XVIII), the method of treating or preventing Ewing's sarcoma comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof (Group XIX) and a method of treating or preventing malignant hemopathies associated with chromosomal anamolies of region 7q34/q35 of a zyxin gene comprising administering a therapeutically effective amount of the composition according to claim 1 to a patient in need thereof (Group XX) are unrelated as they comprise distinct steps and utilize different products which demonstrates that each method has a different mode of operation. Each invention performs this function using structurally and functionally divergent material. Moreover, the methodology and materials necessary for detection, treatment, and modulation differ significantly for each of the materials. For example, either the quantification of zyxin protein or mRNA may be used to diagnosis a tumoral pathologly. In addition, anyone of the compounds of Claim 1 can be used to treat a disorder, wherein the disorder are present in separate and distinct cell types with different morphologies and functions such that one species could not be interchanged with the other. Therefore, each method is divergent in materials and steps. For these reasons the inventions of Groups XI-XX are patentably distinct.

Furthermore, the distinct steps and products require separate and distinct searches. The inventions of Groups XI-XX have a separate status in the art as shown by their different classifications. As such, it would be burdensome to search the inventions of Groups XI-XX.

The inventions of Groups I-VII and XVI are related as products and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the

process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the method of treating or preventing hepatocarcinomas can be practiced with either a pharmaceutical composition comprising a protein, DNA, antisense, vector, cyclic peptide, inhibitor of cofilin, vector or a cell overexpressing the zyxin gene.

The inventions of Groups I-VII and XVII are related as products and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the method of treating or preventing mesenchymal tumors can be practiced with either a pharmaceutical composition comprising a protein, DNA, antisense, vector, cyclic peptide, inhibitor of cofilin, vector or a cell overexpressing the zyxin gene.

The inventions of Groups I-VII and XVIII are related as products and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the method of treating or preventing neuroectodermal cancer can be practiced with either a pharmaceutical composition comprising a protein, DNA, antisense, vector, cyclic peptide, inhibitor of cofilin, vector or a cell overexpressing the zyxin gene.

The inventions of Groups I-VII and XIX are related as products and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the method of treating or preventing Ewing's sarcoma can be practiced with either a pharmaceutical composition comprising a protein, DNA, antisense, vector, cyclic peptide, inhibitor of cofilin, vector or a cell overexpressing the zyxin gene.

The inventions of Groups I-VII and XX are related as products and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the method of treating or preventing malignant hemopathies associated with chromosomal anamolies of region 7q34/q35 of a zyxin gene can be practiced with either a pharmaceutical composition comprising a protein, DNA, antisense, vector, cyclic peptide, inhibitor of cofilin, vector or a cell overexpressing the zyxin gene.

Because the inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification, and the search required for each group is not required for other groups because each group requires a different non-patent literature search due to each group comprising different products and/or method steps, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Note:

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

> In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Fetterolf, PhD whose telephone number is (571)-272-2919. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brandon J Fetterolf, PhD
Examiner
Art Unit 1642

BF

JEFFREY SIEW
SUPERVISORY PATENT EXAMINER
9/16/05